

Claims

1. Fastening element (1), in particular for blind riveting, having a hollow shank (27) comprising a sethead (4) at its free end, having a deformation segment (2) to form a closure head, and having a connecting segment (28) formed inside the shank (27) and serving to form a tension-resistant connection to a mandrel (7), in particular the foot (24) of a mandrel (7), the shank end (3) opposed to the sethead (4) being provided with a punch edge (6) extending essentially along the outermost periphery of the shank (27) and formed by a peripheral surface (26) and a face (25) of the shank end (3), and a projection being provided in the center of the face (25) protruding from the plane in which the punch edge (6) lies on the side away from the sethead (4).

2. Fastening element (1), in particular for blind riveting, having a hollow shank (27) comprising a sethead (4) at its free end, having a deformation segment (2) to form a closure head, having a mandrel (7) inside the shank (27), comprising a mandrel head (23) and a mandrel foot (24), the mandrel foot (24) being at least tension-resistantly connected to a shank end (3) opposed to the sethead (4), the shank end (3) comprising a punch edge (6) extending essentially along the outermost periphery of the shank (27) and formed by a peripheral surface (26) and a face (25) of the shank end (3), and a projection being provided in the center of the face (25), protruding from the plane in which the punch edge (6) lies on the side away from the sethead (4).

3. Fastening element according to either of the preceding claims, characterized in that the shank end (3) opposed to the sethead (4) is open and the projection is arranged at the foot (24) of the mandrel.

4. Fastening element according to any of the preceding claims, characterized in that the shank end (3) opposed to the sethead (4) is closed and forms the projection with a bottom (35).

5. Fastening element according to any of the preceding claims, characterized in that, inside the shank (27), a connecting segment (28) is formed, serving to form a tension-resistant connection with the mandrel (7), in particular the foot (24) of the mandrel (7).

6. Fastening element (1), in particular for blind riveting, having a hollow shank (27) comprising a sethead (4) at its free end, having a deformation segment (2) to form a closure head, having a mandrel (7) inside the shank (27) comprising a mandrel head (23) and a mandrel foot (24), the mandrel foot (24) being tension-resistantly connected at least to a shank end (3) opposed to the sethead (4) and comprising a punch edge (6) extending essentially along the outermost periphery of the mandrel foot (24), and formed by a peripheral surface (34) and a face (32) of the mandrel foot (24), and a projection (33) being provided in the center of the face (32), protruding from the plane in which the punch edge (6) lies on the side away from the sethead (4).

7. Fastening element (1) according to any of the preceding claims, characterized in that the projection (33) is offset from the face by a step.

8. Fastening element (1) according to any of the preceding claims, characterized in that the face (25) passes smoothly from the punch edge (6) into the projection.

9. Fastening element (1) according to any of the preceding claims, characterized in that the height of the projection measured from the plane in which the punch edge lies is 2.5% to 5% of the diameter, or mean diameter, of the punch edge.

10. Fastening element (1) according to any of the preceding claims, characterized in that the face (25, 32) has a shape conforming to a conical or pyramidal surface tapering down in the punching direction.

11. Fastening element (1) according to any of the preceding claims, characterized in that the cross-section of the fastening element (1) is substantially circular.

12. Fastening element (1) according to any of the preceding claims, characterized in that the face (25) and the peripheral surface (26) make an included angle of 93° to 96° with each other.

13. Fastening element (1) according to any of the preceding claims, characterized in that the cross-section of the fastening element (1) is substantially polygonal.

14. Fastening element (1) according to any of the preceding claims, characterized in that the mandrel head (23) is widened.

15. Fastening element (1) according to any of the preceding claims, characterized in that the shank end (3) or the mandrel foot (24), at least in the region of the punch edge (6), is stronger, in particular hardened.